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A-DU04-000311

UOR RFP #88-7--788 88-1

PONDCRETE DESTABILIZATION

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FINAL REPORT

PREPARED BY

HS&E, SAFETY REVIEW GROUP

ORIGINATOR: J. A. DETAMORE

APPROVED BY: M. F. HICKEY, Manager

0004-000311

ROCKWELL INTERNATIONAL  
ROCKY FLATS PLANT

UOR #88-7--778 88-1  
Page 1 of 8  
FINAL FEB 23 1989

1. UOR RFP #88-7--788 88-1

Pondcrete Spill [Pondcrete Destabilization]

2. STATUS AND DATE:

INITIAL/INTERIM June 30, 1988  
FINAL \_\_\_\_\_

3. DIVISION OR PROJECT:

DP - Rockwell International, AERO, Rocky Flats Plant  
Plutonium Operations, Waste Operations

4. FACILITY, SYSTEM OR EQUIPMENT:

RI - Sludge Solidification system, including Building 778, 750 Pad, and  
904 Pad

5. DATE OF OCCURRENCE:

May 23, 1989

6. TIME OF OCCURRENCE:

Condition observed at about 0510 Hours.

7. SUBJECT OF OCCURRENCE:

Spill of a box of low-level mixed waste, commonly called "Pondcrete" onto  
the 904 asphalt pad.

8. APPARENT CAUSE: DESIGN X MATERIAL X PERSONNEL \_\_\_\_\_  
PROCEDURE X OTHER \_\_\_\_\_

REVIEWED FOR CLASSIFICATION

BY

DATE

*Don C. Smith*  
2/16/89 *(Signature)*

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9. DESCRIPTION OF OCCURRENCE:

At approximately 0510 Hours, on Monday, May 23, 1988, a foreman at the Rocky Flats Plant observed deformed boxes of low-level radioactive mixed waste [called Pondcrete], in an area called the 904 Pad [an asphalt pad located outside with no weather protection]. On further investigation, operating personnel determined that a number of the boxes were deformed and/or soft. In unstacking the boxes [they were stacked three-high], to prevent them from toppling over, one box fell from a forklift truck onto the asphalt pad. The box failed from the impact of the fall, spilling about 0.25 cubic feet of pondcrete onto the asphalt.

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10. OPERATING CONDITIONS OF FACILITY AT TIME OF OCCURRENCE:

The original construction of the Rocky Flats Plant included the installation of a clay-lined solar evaporation pond. This pond was intended for the impoundment of aqueous process wastes which had been discharged from the Process Waste Treatment Plant [Building 774], and met drinking water standards for radioactive materials, but which contained high levels of chemical contaminants such as fluoride, nitrate, and various metallic ions. The purpose of the ponds was for water evaporation as a result of the solar heating, causing the solids to reach a saturation concentration and precipitating.

In subsequent years, as a result of changes in Plant operations and environmental requirements, additional evaporation ponds were constructed, asphalt liners were installed to prevent seepage. Wells and collection trenches were installed to monitor for seepage. On several occasions, the ponds were used for the direct disposal of chemicals such as metallic lithium, waste acids, sanitary sludge, plating wastes, none of which had been through the Process Waste Treatment Facility.

In the late 1970s, the Building 374 Aqueous Waste Evaporation System was put in service, which permitted chemical wastes to be evaporated directly rather than transferred to the solar ponds. In addition, beginning in April 1978, pond water was transferred to the evaporator for disposal, making use of capacity excess to current generation requirements. These actions made it possible to begin planning for the future elimination of the ponds from the site.

A key step in the pond elimination program was the removal and disposal of sediments [sludge] in the ponds. These sediments consisted primarily of salts and metallic hydroxides which precipitated from solution together with dust and dirt which blew into the ponds.

The process for disposing of the pond sediments consisted of concentrating the solids by flocculation in a clarifier, mixing the slurry with Portland cement, and pouring into a plastic liner contained within a tri-wall fiberboard box. When the mixture [commonly called "pondcrete"] has solidified, the package was closed and was transferred to the 750 or 904 Pad. Based on sampling and laboratory analyses, the material was defined as low-level radioactive waste until 1986 when it was reclassified as mixed waste. The low-level waste was shipped for disposal at the Nevada Test Site.

Operation of the Pondcrete disposal process began in June 1985. By September 1986, approximately 2,000 boxes of material had been produced and shipped to Nevada. At that point in time, shipments were discontinued pending the resolution of mixed waste RCRA issues. To meet the established schedules for processing pond sediments, pondcrete continued to be produced and the boxes produced were stacked on one of two outdoor asphalt pads for interim storage.

Boxes were stacked in 3 X 4 X 6 arrays of 72 boxes each. Each array was covered by a plastic lined canvas tarpaulin for protection from the weather [it is not completely weather proof]. A passageway was left between stacks for emergency access, inspection, and operations.

At the time of the occurrence, the 750 Pad, located east and south of Building 750, contained 11,798 boxes of Pondcrete, while the 904 Pad, located east of Building 886, contained 4,899 boxes. The boxes on the 904 Pad were produced later than those on the 750 Pad.

For several days prior to the incident, 2.7 inches of rainfall had occurred.

#### 11. IMMEDIATE EVALUATION:

1. Incorrect cement/sludge ratios in the sludge solidification process resulted from inadequate process control of varying solids concentrations in the sludge feed to the pug mill [where cement and sludge are mixed]. Also, a star valve used to introduce cement into the mixer plugged intermittently which prevented cement being introduced into the process. This condition existed since as early as 1985.

2. Fiberboard waste box degradation resulted from weathering and a destabilized product. The tarpaulin was not completely weatherproof thus exposing the boxes to moisture. The tri-wall boxes are shipping containers and were not designed for long term storage, especially of a non-solid product.

3. Quality control inspection procedures were inadequate to detect the incorrect cement/sludge ratios. These incorrect ratios resulted in Pondcrete which did not thoroughly cure. No specifications had been developed for pondcrete to meet. Since no process parameters had been developed to test for, no specific inspection criteria had been developed.

Waste Operations completed a survey of all pondcrete boxes and has estimated that 2,000 boxes will require re-work. Continued storage and new performance criteria will cause this number to increase.

## 12. IMMEDIATE ACTION TAKEN AND RESULTS:

The material that spilled onto the 904 Pad from the failed waste box was picked up and transferred, together with the remainder of the contents of the box, to a new waste box with plastic liner. It was moved to Building 788 where it was stabilized by the addition of cement, and is being held pending a decision on future processing.

The location of the spill was surveyed by a Ludlum #12 alpha survey instrument, which indicated that approximately 12 square feet were contaminated to about 600-1000 counts per minute total alpha radiation. The area was decontaminated to background level [250 counts per minute] by washing with water and using brooms to remove material from crevices in the asphalt. The decontamination water [approximately 5 gallons] was picked up by wet-type vacuum cleaner and transferred to the pondcrete processing area for disposal.

All other materials were either packaged for disposal as waste, or were returned for use in a controlled area.

Other pondcrete arrays were inspected for boxes which might be subject to failure. Those of greatest concern were also returned to Building 788 for further treatment.

All spilled waste was contained on the asphalt pad. Run-off water from recent precipitation had flowed off of the asphalt pad. Therefore, a radiation survey was conducted on the flow path and surrounding areas of the asphalt pad and soil samples were collected at locations where the run-off water flowed off the asphalt pad. Based on analytical data, no threats to human health were identified.

To examine environmental impact, local soil, water, and air samples were, and are being collected as an on-going assessment of environmental impacts. Also, a berm is constructed on the asphalt pad in order to collect run-off water from precipitation events with tank trucks available for collecting this water.

Operations in the Pondcrete processing area were discontinued pending investigation into the cause[s] of the occurrence and determination of corrective actions. Also, a RCRA contingency report [dated June 7, 1988] was prepared within 15 days of the incident as required by 6CCR 1007-3, Part 265.56[j], and 40 CFR 265.56[j].

13. IS FURTHER EVALUATION REQUIRED:

☐ YES ☒ NO

14. FINAL EVALUATION AND LESSONS LEARNED:

The Pondcrete solidification process was developed and installed without adequate process control. The process did not have clear performance criteria relative to requirements for packaging, storage, shipping, disposal, and long term storage. The process was operated without adequate internal measurement and control systems to assure that product was consistently produced, nor was the final inspection adequate.

These deficiencies have been corrected by the actions taken in response to this occurrence. In addition, a Task Team was formed to evaluate the processes, controls, and inspection of all other cemented waste forms produced at the Rocky Flats Plant. The Task Team has submitted recommendations intended to assure all requirements for the waste forms are met.

15. CORRECTIVE ACTION:

TAKEN:

1. Prepare performance criteria for pondcrete waste form which meets all established requirements for preparation, packaging, storage, shipping and disposal.

Status: Criteria for all the above requirements were prepared and approved July 22, 1988.

2. Define process with acceptable control limits for the preparation of pondcrete waste boxes to meet performance criteria.

Status: A Process Technology Development group conducted tests and developed process envelopes within which product meeting the specifications in #1 above, could be produced. The Final Report was transmitted by July 22, 1988.

3. Prepare revised operating procedures for the pondcrete mixing and packaging activities. Include a quality plan to assure that equip-

ment and personnel performance remains within control limits. Implement new procedures.

Status: Two complete procedures were written and approved to implement both the Pond sludge activities, and re-work activities [unstabilized pondcrete from the pads]. These were completed and approved by August 5, 1988.

4. Assure that all operating personnel are properly trained in and adhere to revised procedures.

Status: Standards were developed for qualification in Pondcrete operations by September 1, 1988. Initial operator training commenced on September 16, 1988. Documentation of training and adherence was established by October 7, 1988.

5. Prepare revised inspection procedures to verify that waste packages conform to performance criteria. Implement procedures.

Status: Quality assurance developed criteria and tests to inspect Pondcrete product with. These tests have been analyzed and found to be consistent and accurate. Procedures have been developed detailing all activities surrounding the inspection process. These were completed and approved by September 16, 1988.

6. Prior to the shipment of any previously packaged boxes of pondcrete waste, re-inspect to verify that the container meets the requirements for shipment.

Status: Procedures in #5 above include newly generated pondcrete and previously packaged boxes. All boxes will be re-inspected before determination is made to ship or reprocess. These procedures were completed by September 16, 1988.

7. As required by Recommendation #6 above, take appropriate action to dispose of failed boxes through reprocessing or transfer to an acceptable container.

Status: A procedure was developed for all activities associated with the reprocessing of failed pondcrete boxes. Packaging and shipping facilities are being procured. Inspection and sorting activities are on-going until all boxes are removed from the pads. The procedure was established and approved on August 5, 1988.

8. Until such time as all existing containers have been removed from the pad, or re-inspected and found satisfactory, maintain environmental



surveillance over the 750 and 904 pads to assure personnel safety is maintained, and potential contamination is detected and controlled.

Status: Procedures were prepared for pad surveillance and activities are on-going [see Section 12]. The procedure was approved on July 25, 1988.

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16. PROGRAMMATIC IMPACT:

No significant impact on Plant production activities is anticipated. However, the removal and disposal of sludges from the solar evaporation ponds will be delayed due to reprocessing and repackaging activities. This UOR has identified the need for a packaging analysis, weather protection, environmental monitoring, process controls, and inspection test development.

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17. IMPACT CODES AND STANDARDS:

None

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18. SIMILAR REPORT NUMBERS:

None

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19. SIGNATURES:

J. A. Detamore  
J. A. Detamore, Originator  
Safety Review Group

2/14/89  
Date

E. R. Naimon  
E. R. Naimon, Cognizant Supervisor  
Waste Operations Manager

2-14-89  
Date

W. F. Weston  
W. F. Weston, Director  
Plutonium Operations

2-14-89  
Date

Union Representative

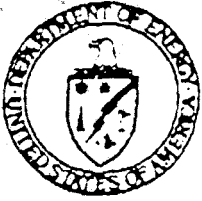
T. J. Teeger  
T. J. Teeger, Union Safety Representative

2-14-89  
Date

APPROVED BY:

Margaret F. Hickey  
Margaret F. Hickey, Manager  
Safety Review Group

2/13/89  
Date



Department of Energy

Nevada Operations Office

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January 18, 1990  
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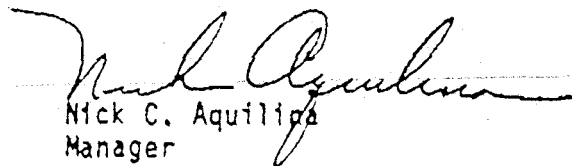
Bruce G. Twining, Manager, AL

ROCKY FLATS PONDCRETE

After review of the Rocky Flats Area Office memorandum with requested data, dated September 2, 1988, and the Technical Audit conducted by the Department of Energy (DOE), Nevada Operations Office (NV) team lead by Darrell M. Warren on November 28-30, 1988, NV approves the acceptance of pondcrete for interim storage at the Nevada Test Site, Area 5 Radioactive Waste Management Site. Please prepare and ship the materials according to your present operational procedures to include the present methods of marking and labeling of the disposal containers. Also required with each shipment is the land-ban certification statement per 40 CFR 268.

Prior to shipping, arrangements must be made for payment and for scheduling shipment arrivals to the Nevada Test Site with E. W. Kendall of Reynolds Electrical & Engineering Co., Inc., at FTS 575-6406.

If you require any further information, please contact Darrell M. Warren, FTS 575-1282.

  
Nick C. Aquilino  
Manager

cc:

R. B. Allen, HQ (DP-122) GTN  
J. G. Themelis, AL  
A. E. Whiteman, RFAO, Golden, CO  
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COMPLIANCE AGREEMENT

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Signed Copy  
Rec'd: Aug 86

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION VIII

COLORADO  
DEPARTMENT OF HEALTH

RCRA VIII-86-06  
CERCLA VIII-86-08

IN THE MATTER OF:

Department of Energy  
Rocky Flats Plant  
Golden, Colorado

Respondent

COMPLIANCE AGREEMENT

This Compliance Agreement ("Agreement") is entered into by the United States Environmental Protection Agency ("EPA"), the United States Department of Energy ("DOE"), and the Colorado Department of Health ("CDH").

1. STATEMENT OF PURPOSE

The mutual objectives of EPA, CDH, and DOE in entering into this Agreement are:

- a. to resolve issues related to, and to establish requirements for, hazardous waste, including radioactive mixed waste, compliance at the DOE's Rocky Flats Plant ("Plant") pursuant to CDH and EPA hazardous waste authorities;
- b. to establish requirements for the investigation of, and corrective action for, any releases of hazardous waste, radioactive mixed waste, or constituents from any solid waste management units ("SWMU") and other areas at the Plant, consistent with the requirements of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901 et seq.
- c. to establish procedures pursuant to the Comprehensive Environmental

Response, Compensation, and Liability Act of 1980 ("CERCLA"), 42 U.S.C. § 9601 et seq., and Executive Order No. 12088 (43 Federal Register 47707, "Federal Compliance With Pollution Control Standards") for the cooperation, exchange of information, and participation of DOE and EPA in the development, implementation and monitoring

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of appropriate remedial actions, consistent with the National Contingency Plan ("NCP"), 40 C.F.R. Part 300, for releases and threatened releases of "hazardous substances, pollutants, or contaminants" as defined in CERCLA (hereinafter referred to collectively as "hazardous substances") at the Rocky Flats Plant;

- d. to establish requirements for: (i) the performance of a remedial investigation to determine fully the nature and extent of any threat to the public health or welfare or the environment that may be caused by the release, or threatened release, from the Rocky Flats Plant of hazardous substances; (ii) the performance of a feasibility study to identify and evaluate alternatives for appropriate remedial action to prevent or mitigate the migration or the release or threatened release of any hazardous substance from the Plant; and (iii) the implementation of remedial action as may be necessary to protect public health, welfare, or the environment.

## 2. BASIS OF AGREEMENT

- a. This Agreement is entered into pursuant to EPA's authority under RCRA, EPA's authority under sections 104 and 106 of the CERCLA; EPA's authority and responsibility under Executive Order 12316, (46 Federal Register 42237, "Responses to Environmental Damage"); EPA's and DOE's authority and responsibility under Executive Order No.

12088, (43 Federal Register 47704, "Federal Compliance With Pollution Control Standards"); DOE's authority under the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2201) ("AEA"), and CDH's authority under sections 25-15-301(4) and 25-15-308, C.R.S., of the Colorado Hazardous Waste Act ("CHWA"). DOE acknowledges its obligations under section 6001 of RCRA.

- b. DOE agrees that the requirements of this Agreement that pertain to regulatory compliance with hazardous waste and radioactive mixed waste requirements are requirements which have become effective pursuant to RCRA within the meaning of section 7002(a) of RCRA. DOE also agrees that CDH is a "person" within the meaning of section 7002(a) of RCRA. In the event of any action filed by any person under section 7002(a) of RCRA alleging any violation of any such requirements of this Agreement, DOE will not contend that the aforesaid provisions of this Agreement are not requirements that have become effective pursuant to RCRA, or that CDH is not a "person" within the meaning of section 7002(a), or that this Agreement is not enforceable under section 7002(a).

### 3. DEFINITIONS AND APPLICABILITY

This Agreement shall be applicable as follows:

- a. For the purpose of categorization and applicability to this Agreement only (but not as a general definition outside the scope of this Agreement) the following terms shall be used herein as indicated:
  - 1) the term "hazardous waste" shall apply to hazardous waste that is not mixed with "source, special nuclear or by-product material" as those terms are defined in the AEA;

- ii) The term "radioactive mixed waste" shall apply to wastes that contain hazardous wastes subject to RCRA and radioactive wastes subject to the AEA.
  - iii) This Agreement shall not apply to "transuranic material" or ~~to hazardous waste mixed with transuranic material, which~~ shall be stored and ultimately shipped to DOE's Waste Isolation Pilot Plant. For this Agreement, the term "transuranic material" shall apply to any material including but not limited to waste material, which is contaminated with alpha-emitting transuranic radionuclides with half-lives greater than 20 years, in concentrations greater than 100 nanocuries per gram of material, and whose atomic number is greater than 92.
  - iv) Notwithstanding the definitions contained in ii and iii above, an intentionally created mixture of hazardous waste and transuranic material, which mixture is not necessary in connection with processing or treatment operations, shall nevertheless be considered to be radioactive mixed waste for the purpose of this Agreement.
- b. The terms "Rocky Flats," "Plant," "Rocky Flats Plant," "Rocky Flats facility," "facility," and "site" mean the U. S. Government owned facility known as the Rocky Flats Plant located north of Golden, Colorado.
  - c. The abbreviation "HSWA" shall mean the Hazardous and Solid Waste Amendments of 1984 to RCRA.
  - d. All other terms shall have the meaning set forth in RCRA, CERCLA,



CHWA, the NCP, and implementing regulations, as appropriate unless specified otherwise.

- e. CDH's approval role and authority for corrective action under this Agreement and the attached Schedules are limited by the extent of its authorization by EPA to implement RCRA, and do not extend to any actions or activities undertaken provided for, or required pursuant to CERCLA. EPA shall have the sole approval role under CERCLA, following consultation with CDH. CDH reserves any and all authority it has under state law and regulations and RCRA related to corrective action.

#### 4. FINDINGS OF FACT

EPA and CDH make the following Findings of Fact without admission of any such facts by DOE:

- a. DOE is an agency of the federal government and is subject to regulation of its hazardous waste management activities pursuant to section 6001 of RCRA, 42 U.S.C. § 6961. DOE is a "person" as defined in section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- b. The Rocky Flats facility is owned by the United States and is under the custody of and controlled by DOE. The facility was established by the U. S. Atomic Energy Commission in 1951, and began operations the following year. The facility has been and continues to be used for the production of components for nuclear weapons in accordance with DOE's authority and responsibility under the AEA.
- c. DOE is the only agency or entity authorized by law to produce nuclear weapons for national defense (42 U.S.C. §§ 2121, 2122). DOE, in the exercise of its exclusive statutory authority to

produce nuclear weapons, is the owner of the Rocky Flats Plant and a proper party to seek and obtain permits for the treatment, storage, and disposal of hazardous waste.

- d. Under Contract DE-AC04-76DP 03533, DOE has, since July 1, 1975, engaged Rockwell International Corporation ("Rockwell") to perform management services in support of DOE's production activities at the Rocky Flats Plant. These services include activities required to meet the obligations of DOE under this Agreement.
- e. DOE and Rockwell are generators as defined in 40 C.F.R. section 260.10, and 6 CCR 1007-3, section 260.10.
- f. DOE owned and Rockwell operated the facility on and after November 19, 1980.
- g. Consistent with section 3010 of RCRA, 42 U.S.C. § 6930, DOE and Rockwell notified EPA of hazardous waste activity at the Plant. In their notification dated August 18, 1980, DOE and Rockwell identified themselves as a generator, treater, storer, and/or disposer of hazardous waste at the facility.
- h. In their notification of August 18, 1980, DOE and Rockwell identified themselves as handling the following hazardous wastes at the facility:
  - (1) Hazardous wastes exhibiting the characteristics of ignitability, corrosivity, or EP toxicity.
  - (2) Hazardous wastes from certain non-specific sources.
- i. DOE and Rockwell filed a Part A RCRA permit application on November 14, 1980, which identified certain hazardous wastes.
- j. In their permit application submitted on November 1, 1985, DOE and Rockwell notified the State, pursuant to the CWA, of the

handling of certain hazardous wastes. Said permit application did not include radioactive mixed waste streams or units. DOE's position is that CDH has jurisdiction over hazardous waste, but has no jurisdiction over radioactive mixed waste until authorized by EPA. ~~CDH asserts jurisdiction over radioactive mixed waste~~

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and issued on December 4, 1985, a Notice of Intent to Deny DOE's Part B permit application on the grounds of incompleteness.

- k. In their permit application submitted on November 8, 1985, DOE and Rockwell notified EPA, pursuant to section 3004 of RCRA, 42 U.S.C. § 6925, and section 3010 of RCRA, 42 U.S.C. 6930, of the handling of certain radioactive mixed wastes.
- l. Since the establishment of the facility in 1952, materials defined as hazardous substances have been produced and disposed of at various locations at the facility.
- m. Certain hazardous substances, radioactive mixed wastes, hazardous wastes, or constituents thereof remain on, under, or near the facility, and have been detected in groundwater at the facility.
- n. Groundwater, surface water, and air pathways provide routes for the potential migration of hazardous substances, radioactive mixed wastes, or hazardous wastes or constituents thereof from the Rocky Flats facility into the environment.
- o. The migration of such hazardous materials from the facility may present a threat to the public health, welfare, and the environment.
- p. The Rocky Flats facility contains both active and inactive SWMU which are potential sources for the release of hazardous substances or hazardous wastes or constituents thereof.
- q. The permit application submitted on November 8, 1985, to EPA by

DOE and Rockwell pursuant to section 3005 of RCRA, 42 U.S.C. § 6925, and implementing regulations identified a number of units subject to RCRA regulations including incinerators, treatment/storage tanks, surface impoundments, and land application/land disposal facilities.

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- r. EPA has agreed to use its best efforts to authorize the State of Colorado to regulate radioactive mixed waste on or before September 30, 1986, CDH has filed a request for authorization to regulate radioactive mixed waste under RCRA.
- s. Pursuant to section 105 of CERCLA, 42 U.S.C. § 9605, EPA proposed the Rocky Flats site for inclusion on the National Priorities List ("NPL") on October 15, 1984, but has not issued a final list that includes Federal facilities.

5. CONCLUSIONS OF LAW AND DETERMINATIONS

- 1. Based on the Findings of Fact set out above and the administrative record, the Director of the Waste Management Division, EPA, Region VIII, and the Director of the Toxic Substances and Waste Management Division of CDH have determined, without admission of any such determination by DOE, that:
  - a. The Rocky Flats site is a "facility" as defined in the EPA and CDH hazardous waste regulations, and was in existence on November 19, 1980.
  - b. The Rocky Flats facility is subject to the generator, interim status, corrective action, and permitting requirements for radioactive mixed waste and for hazardous waste, and DOE and Rockwell have interim status for the Rocky Flats facility to treat and store those wastes identified in subparagraphs

- c. DOE is an owner and Rockwell is an operator of the facility within the meaning of RCRA and CHWA.
  - d. Certain wastes and constituents thereof found at the facility are hazardous wastes or constituents thereof as defined
- 

pursuant to RCRA and CHWA.

- e. In view of the potential for release of hazardous waste, radioactive mixed waste and/or constituents into the environment from the DOE facility, and the necessity for compliance with RCRA and CHWA requirements, EPA and CDH have determined that the actions specified herein are necessary to protect human health and the environment.

- 2. Based on the Findings of Fact set out above, and the administrative record, EPA has determined, without admission of any such determinations by DOE, that:

- a. The Rocky Flats site is a facility as defined in section 101(9) of CERCLA, 42 U.S.C. 9601(9). The facility was in existence on November 11, 1980.
- b. DOE is a person within the meaning of section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- c. DOE owns and Rockwell operates the facility within the meaning of section 107(a) of CERCLA, 42 U.S.C. § 9607, and section 101(20)(A) of CERCLA, 42 U.S.C. § 9601(20)(A).
- d. Certain materials, wastes, and constituents thereof found at the site are hazardous substances.
- e. There is or has been a release of hazardous waste, hazardous substances, and/or hazardous constituents into the environment

within the meaning of RCRA, and section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

- f. The past, present, and potential future migration of hazardous ~~substances at the facility into the environment constitutes~~ or may constitute an actual or threatened release as defined in section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
- g. The actual or threatened release of hazardous substances from the Rocky Flats facility may present an endangerment to the public health, welfare, and/or the environment within the meaning of section 106 of CERCLA, 42 U.S.C. § 9606.
- h. Based on the potential release of hazardous substances into the environment from the Rocky Flats facility, EPA has determined that the actions specified herein are necessary to protect public health, welfare, and/or the environment.

NOW THEREFORE, the parties to this Agreement, with the mutual goal to protect the public health, welfare, and the environment, and believing that the actions set forth herein are in the public interest, have entered into this Agreement to achieve hazardous and radioactive mixed waste compliance at the Rocky Flats facility and to achieve the purposes set forth in this Agreement. Accordingly, IT IS AGREED AS FOLLOWS:

6. REGULATORY COMPLIANCE - HAZARDOUS WASTE

- a. DOE will comply with the CHWA and CDH's hazardous waste regulations found at 6 CCR 1007-3 (hereafter also referred to as "the CDH hazardous waste regulations") in its management of hazardous wastes at the Plant.
- b. DOE will comply with Schedule 1 attached hereto and incorporated

herein by reference which contains a timetable for generator and interim status compliance.

- c. 1. DOE and Rockwell will submit to CDH a revised Part B permit application in accordance with Schedule 1 for all hazardous waste activities and units at the Plant as required by the CDH hazardous waste regulations. The revised Part B permit application shall be combined with the radioactive mixed waste permit application discussed hereafter and the combined permit application shall be submitted to both EPA and CDH.
2. CDH will be the agency contacted regarding the combined permit application. CDH shall have review authority over the hazardous waste portion of the combined application and EPA shall have review authority over the radioactive mixed waste and HSWA portions of the permit application until CDH is authorized pursuant to section 3006 of RCRA, 42 U.S.C. § 6926, to regulate radioactive mixed waste or to implement HSWA. EPA retains full authority to implement and enforce HSWA as well as its permit review authority pursuant to 40 C.F.R. section 271.134. EPA shall use its best efforts to coordinate its actions pursuant to RCRA under this subparagraph c, including subsections 3004(u) and (v), 42 U.S.C. § 6924(u) and (v), with CDH's authorities.
3. A joint EPA-CDH permit for hazardous and radioactive mixed waste will be issued unless, prior to issuance, EPA has authorized CDH to implement the HSWA provisions and/or to regulate radioactive mixed waste, in which case CDH will issue all portions of the permit for which CDH has received EPA authorization.
- d. DOE will provide a waste analysis plan, and documents preliminary

thereto, for hazardous waste, as well as documents identifying hazardous and solid waste management units and changes to interim status, to CDH as required by CDH's hazardous waste regulations, in accordance with Schedule 2 attached hereto and incorporated herein by reference.

- e. DOE shall submit documents and take actions related to site characterization and corrective action for any SWMU's in accordance with Schedule 3 attached hereto and incorporated herein by reference. Completion of the tasks in Schedule 3 shall be integrated with, and conducted in a manner consistent with, the comparable activities for CERCLA areas, as required by paragraph 10 hereof. Upon approval of plans for site characterization and corrective action by EPA and CDH, DOE shall implement the plans in accordance with the schedules therein.
- f. DOE shall provide closure plans and post-closure plans for all units which are to be closed in accordance with Schedule 4 attached hereto and incorporated herein by reference.
- g. References in Schedules 1 through 4 to radioactive mixed wastes, HSWA, or CERCLA requirements are for the purposes of describing the integrated technical program which will be followed by the parties and do not imply CDH enforcement authority with respect to matters other than hazardous waste unless and until authorized by EPA under section 3006 of RCRA, 42 U.S.C. § 6926.

7. HAZARDOUS WASTE ENFORCEMENT

- a. CDH may enforce DOE's compliance herewith pursuant to its authorities and procedures under CWA, the CDH hazardous waste



regulations and as appropriate, RCRA. The provisions of Schedules 1 through 4 related to hazardous waste are compliance orders issued by CDH pursuant to section 25-15-308(2), C.R.S. CDH's agreement to these Schedules is not to be construed as a waiver of any rights to seek civil penalties for past, present, or future violations of the CHWA, the CDH's hazardous waste regulations, or the schedules attached hereto. DOE reserves the right to contest any such claim for civil penalties.

- b. EPA shall enforce DOE's compliance herewith in the same manner as it enforces RCRA requirements with respect to federal facilities in an authorized-state. If a particular dispute is not resolved to the satisfaction of either party through the normal enforcement process for federal agencies, either Party may invoke the conflict resolution procedures set out in sections 1-6 of Executive Order 12088, and/or sections 1-4 of Executive Order 12146, (44 FR 42657, "Management of Federal Legal Resources," (July 20, 1979).
- c. DOE agrees that the requirements of this Agreement that pertain to regulatory compliance with hazardous waste and radioactive mixed waste requirements are requirements which have become effective pursuant to RCRA within the meaning of section 7002(a) of RCRA. DOE also agrees that CDH is a "person" within the meaning of section 7002(a) of RCRA. In the event of any action filed by any person under section 7002(a) of RCRA alleging any violation of any such requirements of this Agreement, DOE will not contend that the aforestated provisions of this Agreement are not requirements that have become effective pursuant to RCRA, or that CDH is not a "person" within the meaning of section 7002(a), or that this

Agreement is not enforceable under section 7002(a).

8. RADIOACTIVE MIXED WASTE REGULATORY COMPLIANCE

- a. The parties agree that the framework for compliance for the Plant's radioactive mixed waste units under this Agreement is HSWA and 40 C.F.R. Parts 260-271. However, if during the term of the Agreement, EPA pursuant to section 3006 of RCRA, 42 U.S.C. § 6926, authorizes the State of Colorado to regulate radioactive mixed waste under RCRA, it is agreed that thereafter the regulatory framework for this paragraph 8 shall be the CDH hazardous waste regulations, in addition to HSWA.
- b. DOE will comply, with respect to its radioactive mixed wastes, with the requirements of 40 C.F.R. sections 262 and 265 to the extent that such compliance is not "inconsistent" with the requirements of the AEA, as described in subparagraph h hereof, in accordance with Schedule 1, which contains a timetable for generator and interim status compliance.
- c.
  1. DOE will submit in accordance with Schedule 1 a revised Part B permit application for all radioactive mixed waste activities and units by November 28, 1986. The permit application will be prepared to meet those requirements of the CDH hazardous waste regulations which, if applicable to radioactive mixed waste, would be more stringent than EPA's regulations. The revised radioactive mixed waste permit application shall be combined with the hazardous waste permit application discussed heretofore and the combined application shall be submitted to both EPA and CDH.
  2. EPA shall have review authority over the HSWA and radioactive

mixed waste portions of the permit application unless EPA has authorized CDH under section 3006 of RCRA, 42 U.S.C. § 6926, to regulate mixed waste at the Plant or to implement the HSWA provisions. ~~The authority issuing the permit will be CDH provided~~ that EPA has fully authorized the State by that time. If full authorization has not occurred prior to the time of permit issuance, the radioactive mixed waste and/or the HSWA portions of the permit shall be issued by EPA. EPA retains its permit review authority pursuant to 40 C.F.R. section 271.134.

- d. DOE will provide to CDH and EPA a waste analysis plan and documents preliminary thereto, for radioactive mixed waste as well as documents identifying radioactive mixed waste management units and changes to interim status in accordance with Schedule 2 attached hereto.
- e. DOE shall submit documents and take actions related to site characterization and corrective action for any SWMU's in accordance with Schedule 3 attached hereto. Completion of the tasks in Schedule 3 shall be integrated with, and conducted in a manner consistent with, the activities for CERCLA areas, as required by paragraph 10 hereof. Upon approval of plans for site characterization and corrective actions by EPA and CDH subject to paragraph 3(e), DOE shall implement the plans in accordance with the schedules therein.
- f. DOE shall provide closure plans and, where applicable, post-closure plans and post-closure permit applications for all units (other than those discussed in subparagraph g below) which are to be closed in accordance with Schedule 4 attached hereto.

- g. DOE will provide closure and post-closure plans to CDH and EPA and perform closure and post-closure activities for Solar Ponds 207A, 207B, and 207C in accordance with Schedule 5 attached hereto and incorporated herein by reference. DOE will also provide documents required by 40 C.F.R. section 270 for any treatment, storage, and disposal activities undertaken pursuant to closure for which a permit is required.
- h. (1) DOE shall comply with respect to its radioactive mixed wastes with the generator and interim status standards of 40 C.F.R. Parts 262 and 265 and, after a permit is issued, with Part 264 and 270 standards, provided that such compliance is not inconsistent with DOE's obligations under the Atomic Energy Act of 1954 as amended. Such obligations include, inter alia, the protection of human health and the environment from radiation hazards associated with its operations and the production of nuclear weapons for the national defense.
- (2) Any determination of inconsistency between the technical requirements of the AEA and the technical requirements of RCRA or the State's EPA-authorized RCRA program shall be made after consultation between the Secretary of Energy and the Administrator, EPA. If such persons cannot agree on said determination, either party may invoke the dispute resolution mechanism of Executive Order 12088. The State shall be consulted in connection with such determination of technical inconsistency and its views given careful review and consideration by DOE and EPA.
- (3) Determinations of national security-related inconsistency between the requirements of the AEA and those of RCRA shall be

made solely by the DOE. The DOE shall notify the EPA and the State of any such determinations and the reasons therefor. EPA reserves whatever rights of appeal of such determinations it may have.

(4) CDH reserves any rights it may have to seek judicial review  
of such inconsistency determinations.

- i. References in Schedules 1 through 5 to CERCLA requirements are for the purpose of describing the integrated technical program which will be followed by the parties and do not imply that RCRA or CHWA enforcement authorities are applicable to CERCLA matters.

9. RADIOACTIVE MIXED WASTE ENFORCEMENT

- a. Compliance with paragraph 8 by DOE may be enforced by EPA in the same manner as it enforces RCRA requirements at any federal facility. If a particular dispute is not resolved to the satisfaction of either party through the normal enforcement process for federal agencies either Party may invoke the conflict resolution procedures set out in sections 1-6 of Executive Order 12088, and/or section 1-4 of Executive Order 12146.
- b. (1) CDH may at any time file an action under section 7002(a)(1)(A) alleging a violation of any requirement of RCRA expressed in this Agreement including but not limited to violations of Schedules 1-5 hereof and 40 C.F.R. Parts 260-270 for radioactive mixed wastes.  
(2) CDH may, but is not required to, notify DOE in writing of such alleged violation prior to or concurrently with initiation of an action described in (1) above. If CDH does so notify DOE, the parties shall attempt to resolve informally the alleged violation.  
(3) CDH expressly reserves the right to seek civil penalties in

an action brought under section 7002 for violations of the RCRA requirements expressed in the Agreement. DOE expressly reserves the right to contest the applicability of civil penalties.

~~(4) If EPA determines that CDH is authorized under section 3006~~  
of RCRA, 42 U.S.C. § 6926, to regulate radioactive mixed waste, CDH may also enforce the requirements of the Agreement related to radioactive mixed waste pursuant to its authorities and procedures under CHWA and the CDH hazardous waste regulations.

10. REMEDIAL/CORRECTIVE ACTION

- a. The parties to this Agreement acknowledge that there may be overlap of CERCLA, RCRA, and CHWA authorities with respect to actual or potential contaminated areas at the Rocky Flats Plant. To the extent practicable, activities undertaken pursuant to RCRA, CHWA, and CERCLA shall be integrated into one technical program to avoid duplication of effort and to ensure protection of the public health, welfare, or the environment. DOE shall comply with applicable RCRA, CHWA, and CERCLA requirements.
- b. The parties acknowledge that DOE has developed and is presently implementing a program entitled the "Comprehensive Environmental Assessment and Response Program" (CEARP) which addresses SWMU and CERCLA areas at the Rocky Flats site. The parties agree that for all CERCLA response activities and corrective action at the site, the CEARP shall be consistent with the requirements of the National Contingency Plan (NCP) under CERCLA and applicable RCRA requirements including but not limited to the following:
  - (1) Remedial Investigation. The CEARP shall include a remedial investigation under CERCLA and the NCP which is consistent

with the NCP and with EPA's "Guidance on Remedial Investigations Under CERCLA." The geographic scope of the remedial investigation shall include the entire Rocky Flats site plus any additional ~~areas where contamination originating from the site has been~~ or may be identified. Such investigations may be completed separately for various operable units pursuant to an approved work plan. DOE shall submit a remedial investigation report to EPA and CDH, subject to paragraph 3(e), for review and approval.

- (2) Feasibility Study. The CEARP shall include a feasibility study under CERCLA and the NCP which is consistent with the NCP and EPA's "Guidance on Feasibility Studies Under CERCLA." The feasibility study shall include an analysis of alternatives for remedial action, and shall recommend an alternative to EPA for approval. DOE shall prepare a feasibility study report and shall submit such report to EPA and CDH, subject to paragraph 3(e), for review and approval.
- (3) Endangerment (Risk) Assessment. The CEARP shall include an endangerment assessment which is consistent with the NCP and applicable EPA guidance. DOE shall submit a report on the endangerment assessment to EPA and CDH, subject to paragraph 3(e), for review and approval.

- c. DOE shall deliver proposed response measures and proposed implementation schedules to EPA and CDH in accordance with Schedule 3 attached hereto and incorporated herein by reference. Any response measures and corrective action proposed for implementation under CERCLA and RCRA at the Rocky Flats site shall be subject to EPA

and CDH approval, subject to paragraph 3(e), and shall be consistent with the NCP and applicable RCRA guidance.

- d. The technical tasks and timeframes for accomplishment of the integrated program for SWMU and CERCLA areas which includes CERCLA/CEARP requirements are contained in Schedule 3 attached hereto and incorporated herein by reference.
- e. Following EPA and CDH approval of response measures and corrective actions, the remedial/corrective action alternative selected shall be incorporated into this Agreement, together with the schedules developed pursuant to Schedule 3 therefor, and shall thereafter be implemented by DOE.
- f. To provide for public comments as contemplated by the NCP on the CERCLA provisions of this Agreement and its subsequent implementation, the Parties agree to the following:
  - (1) Within 30 days of the effective date of this Agreement, DOE shall submit to EPA and CDH a draft communications strategy/community relations plan which includes activities and schedules for conducting a public involvement program consistent with the NCP, and EPA's guidance on community relations planning. A final strategy/plan shall be prepared within 14 days of receipt of EPA/CDH comments. After approval by EPA and CDH, the strategy/plan shall be implemented.
  - (2) EPA and DOE shall conform to the public comment requirements of the NCP and relevant EPA guidance with respect to CERCLA activities and reports generated under this Agreement.
  - (3) Prior notification shall be provided to all parties when issuing press releases.



(4) Upon DOE's submission to EPA of a final feasibility study report pursuant to this Agreement, EPA shall, consistent with the NCP, make both the remedial investigation report and the feasibility study report, available to the public for review and comment for at least twenty-one days.

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- g. Nothing in this paragraph 10 shall preclude DOE, CDH, or EPA from taking any response actions which are deemed necessary to protect public health, welfare, and the environment. If a removal action is undertaken by DOE or EPA, it shall notify the other party within twenty-four (24) hours after the commencement of such action. If a remedial action is planned by DOE or EPA, it shall notify the other party before commencement of the same. EPA, CDH, or DOE actions taken pursuant to this subparagraph g do not release any party from any of the obligations to comply with the requirements of this Agreement.
- h. References in Schedule 3 to hazardous waste or radioactive mixed waste CWA or RCRA requirements are for the purpose of describing the integrated technical program which will be followed by the parties and do not imply that CWA or RCRA enforcement procedures are applicable to CERCLA matters. Additionally, CERCLA information submitted contemporaneously with the combined Part B permit application shall be for CERCLA review and approval only, and shall not be submitted for the purpose of seeking a permit for such CERCLA activities.

11. REMEDIAL/CORRECTIVE ACTION DISPUTE PROCEDURES

- a. (1) All disagreements, disputes, and conflicts ("disputes") arising between EPA and DOE under the provisions of paragraph 10 hereof

shall be subject to the terms and conditions of this paragraph

11. Either may invoke the dispute resolution process set forth herein by giving notice to the other party.

~~(2) EPA and DOE will, in good faith, undertake their best efforts to~~  
resolve any disputes involving CERCLA. EPA will consult with CDH in connection with such a dispute. In the event that agreement between DOE and EPA cannot be reached, either may request that the Parties appoint an official to a second level dispute resolution team, and these officials will, in good faith, attempt to resolve the dispute.

(3) If a particular dispute is not resolved within sixty (60) days after the dispute arises through the process described herein, either Party may invoke the conflict resolution procedures set out in sections 1-6 of Executive Order 12088 and/or section 1-4 of Executive Order 12146.

b. Disagreements, disputes, and conflicts ("disputes") between CDH and DOE arising under the provisions of paragraph 10 hereof related to corrective action for radioactive mixed waste shall be resolved as provided by paragraph 9(b). Disputes between CDH and DOE arising under the provisions of paragraph 10 relating to corrective action for hazardous waste shall be resolved as provided by paragraph 7(a).

## 12. GENERAL PROVISIONS

### a. Access

1. Access to Plant. DOE will permit access to the Plant to EPA and CDH personnel for the general purpose of determining

following specific purposes:

- (1) to inspect, review, and copy as necessary the documents and information to be provided hereunder;
- ~~(2) to observe hazardous and radioactive mixed waste unit operations;~~
- (3) to observe groundwater monitoring wells and radioactive mixed waste operations related to the groundwater activities specified herein and in Schedule 3 to be performed by DOE.
- (4) to observe field work and to monitor any of the activities required by this Agreement; and
- (5) to conduct any other necessary sampling, monitoring, testing, and other information gathering, as determined by CDH and EPA.

Access to certain portions of the plant will be restricted to those EPA and CDH personnel with Q access security clearances. EPA and CDH personnel shall give prior notice to Plant personnel of their visit and will be accompanied by Plant personnel during such visit. EPA and CDH agree that its representatives shall comply with all rules and regulations established by DOE for the protection of health, safety, and security while at the Plant, including the requirements of Executive Order 12356. Nothing in this subparagraph a.1. shall preclude EPA and CDH from exercising or attempting to exercise their right or alleged right to enter and inspect the Plant site pursuant to their own statutes or regulations. DOE reserves all rights to control access to the site pursuant

2. Offsite Access

To the extent that activities pursuant to the Agreement must be carried out on other than DOE property, DOE shall use its best efforts to obtain access agreements from the owners which shall provide reasonable access for DOE, EPA, and CDH representatives. In the event that DOE is unable to obtain such access agreements, DOE shall notify EPA and CDH regarding both the lack of agreements and efforts to obtain such access agreements, and EPA and CDH will, consistent with their statutory authorities, attempt to secure access.

b. Sampling

- (1) DOE shall make available to EPA and CDH all results of sampling, tests, or other data, generated by DOE or on its behalf with respect to the implementation of this Agreement within ten (10) days of their receipt by DOE. Similarly, EPA and CDH will make available to DOE the results of sampling, tests, or other data generated by EPA or CDH within ten (10) days after the results are available.
- (2) DOE shall notify EPA and CDH by telephone at least seven (7) days before conducting well drilling, installation of major equipment, or sampling performed pursuant to any of the Schedules attached hereto. At the request of EPA or CDH, DOE shall provide or allow EPA or CDH to observe field work and to take split or duplicate samples of all samples collected by DOE pursuant to this Agreement. At the request of DOE, EPA and CDH similarly shall provide or allow DOE or its

authorized representatives to take split or duplicate samples of all samples collected by EPA and CDH at the Rocky Flats facility.

c. Submittal Review. Certain submittals by DOE under the Schedules

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attached hereto shall be provided to EPA and CDH, as appropriate, for comment at least two (2) weeks prior to the date in the Schedule. DOE shall provide a final submittal that incorporates EPA and CDH comments, as appropriate, by the later of the Schedule deadline or seven (7) days after DOE's receipt of the comments.

d. Confidential Information and Security.

1. EPA and CDH Personnel. DOE agrees to process security clearances, in accordance with DOE procedures, for the personnel designated by EPA and CDH to have access to the Plant.

2. DOE Documents and Information:

(1) DOE agrees to give to EPA and CDH-designated personnel with appropriate security clearances, access to any information relevant to waste generator and management requirements, or releases of hazardous substances, hazardous wastes, radioactive mixed waste, and their constituents that EPA and CDH reasonably need to fulfill their responsibilities under this Agreement.

Information may include Restricted Data, National Security Information classified under Executive Order 12356 and its predecessors, and Unclassified Controlled Nuclear Information under section 148 of the Atomic Energy Act of 1954, as amended.

(2) EPA and CDH agree to handle and safeguard such DOE

information in accordance with the AEA and DOE Orders and Executive Order 12356, and to establish, at their own expense, adequate facilities to safeguard such documents from theft or unauthorized use. EPA and CDH further agree to permit DOE to conduct regular security inspections of their facilities to assure compliance with this subparagraph.

- e. Record Preservation. EPA, DOE, and CDH agree that each shall preserve, during the pendency of the Agreement and for a minimum of six (6) years after its termination, all records and documents in their possession or in the possession of their division or employees which are generated, used, or reviewed in performing the work required under this Agreement, despite any retention policy to the contrary.
- f. Quality Assurance. Throughout all sample collection and analysis activities, DOE shall use CDH or EPA-approved quality assurance, quality control, and chain of custody procedures, as appropriate. In addition, DOE shall:
  - (1) Follow the EPA guidance contained in the document entitled "Standard Operating Procedures for Field Samplers" (March 1986);
  - (2) Consult with EPA and CDH in planning for, and prior to, sampling and analysis;
  - (3) Inform EPA and CDH in advance which laboratories will be used by DOE, and ensure that EPA and CDH authorized representatives will have reasonable access to the laboratories and personnel used for analyses;
  - (4) For the laboratories used by DOE perform analyses according

to EPA methods or other methods deemed satisfactory to EPA and CDH; and

- (5) Ensure that laboratories used by DOE for analyses participate in a quality assurance/quality control program equivalent to that which is followed by EPA and CDH. As part of such a program, and upon request by EPA or CDH, such laboratories shall perform analyses of samples provided by EPA or CDH to demonstrate the quality of the analytical data. A maximum annual number of four such samples may be provided to each laboratory.

g. Project Coordinators. Within fifteen (15) days from the effective date of this Agreement, EPA, CDH, and DOE shall each designate a Project Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Agreement. To the maximum extent possible, all communications between CDH, DOE, and EPA, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of the Agreement, be directed through the Project Coordinators. EPA, DOE, and CDH each have the right to change their respective Project Coordinator. Such a change shall be accomplished by notifying the other parties in writing at least one week prior to the change.

h. Rockwell's Performance of DOE's Obligations. DOE's obligations as specified herein may be carried out in whole or in part by DOE's management contractor for the Plant, Rockwell. Accordingly, any action taken by Rockwell in fulfillment of DOE's obligations under this Agreement shall be to the same effect as if performed

by DOE. If DOE's contract with Rockwell is terminated or expires prior to such time as the obligations of DOE are fully satisfied hereunder, DOE agrees to impose upon its successor contractor at Rocky Flats the same obligations as now imposed upon Rockwell with respect to the satisfaction of DOE's obligations hereunder. Notwithstanding any contract existing between DOE and Rockwell, DOE shall remain obligated under the terms of this Agreement.

1. Delay or Prevention of Performance

- (1) Subject to the provisions of subparagraph j below, DOE will use its best efforts to avoid any delay or prevention of the performance of activities identified in the Schedules attached to this Agreement. Any failure by DOE to meet the dates specified herein or in the Schedules shall be excused, and the time for completion extended, to the extent that such failure is caused by unforeseen circumstances beyond the control of DOE. Such circumstances shall include but not be limited to: acts of God, acts of war, fires, floods, strikes, insurrections, and riots. DOE shall notify the EPA and CDH within three (3) days of its knowledge of any such delay and the reasons therefor. Within ten (10) days of such notification, DOE shall provide EPA and CDH with a written report describing the length of the delay, the reason for the delay, efforts to minimize the delay and a proposed revised schedule.
- (2) If the parties agree that a delay is or was excusable, the parties shall modify the dates specified herein or in the Schedules to provide such additional time as may be necessary



to allow completion of the particular task or tasks and/or any succeeding phase of the work affected by such delay.

- (3) If the parties cannot agree on whether there is or was an excusable delay or the duration of such delay, EPA or CDH
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may take such action as provided for herein.

j. Funding. DOE's performance of commitments under the Schedules attached hereto is subject to the availability of appropriated funds for such purpose. If appropriated funds are not available to fulfill the obligations contained in the Schedules, CDH and EPA reserve the right to initiate such action as they deem appropriate, to the extent permitted by law.

k. Agency. This Agreement shall not be construed to create, either expressly or by implication, the relationship of agency between the parties. Neither EPA, DOE, or CDH shall be liable for the contracts, acts, errors, or omissions of the agents, employees, or contractors of the other Parties entered into, committed, or performed with respect to or in the performance of this Agreement.

l. EPA's and CDH's Obligations. In addition to obligations expressed elsewhere herein, the following specific obligations are made:

- (1) CDH agrees that simultaneously with the execution of this Agreement, it will issue a document which withdraws its "Notice of Intent to Terminate Interim Status and to deny a State Hazardous Waste Part B Permit Application..." dated December 4, 1985, and which references the compliance requirements contained in Schedule 1 attached hereto.

(2) CDH and EPA agree to waive any civil penalties arising out

of or in connection with any alleged violation of RCRA, RCRA regulations, the CHWA, or the CDH hazardous waste regulations by DOE or Rockwell alleged to have occurred prior to the date of this Agreement with respect to management of the facility's radioactive mixed wastes, including the offsite transportation, storage, or disposal of radioactive mixed wastes.

- (3) CDH and EPA agree that during the term of this Agreement neither EPA nor CDH will seek, in any proceeding against DOE under RCRA, CERCLA, the CHWA or their implementing regulations before any administrative or judicial forum, to revise the activities and timetables contained in the Schedules attached hereto except in response to an emergency or circumstance which may present an immediate and substantial threat or an imminent and substantial endangerment to the public health, welfare, safety, and the environment.
- (4) CDH and EPA agree to provide DOE with technical assistance in connection with DOE's hazardous and radioactive mixed wastes and with the groundwater monitoring investigative efforts described herein.
- (5) Upon completion by DOE of the remedial actions requirements referenced in paragraph 10 hereof to the satisfaction of EPA, EPA, upon DOE's written request, shall respond to DOE in writing that DOE's actions taken pursuant to this Agreement were consistent with the NCP and that any clean-up remedy selected by EPA is the most appropriate remedy consistent

m. Legal Positions and Other Remedies Preserved

- (1) Except as provided in paragraph 1(2) hereof, CDH reserves the right, to the extent permitted by State or Federal law, to seek civil penalties against DOE with respect to any alleged past, present, or future violation of RCRA, the CHWA, and the CDH hazardous waste regulations.
- (2) This Agreement shall not constitute a concession or admission by DOE, EPA or CDH on the issue of the State's regulatory authority (including the authority to impose civil penalties) over radioactive mixed waste without authorization by EPA under section 3006 of RCRA, 42 U.S.C. § 6926, and this Agreement shall not be pleaded as evidence on that issue by DOE, EPA or CDH in any case or proceeding filed to resolve that issue. If CDH files any case or proceeding regarding radioactive mixed wastes except as provided in paragraph 9(b) herein, DOE and CDH agree that DOE's obligations to CDH under paragraphs 8 and 9 shall be voidable at the election of DOE, without further obligations to CDH hereunder.
- (3) Nothing in this Agreement including the findings of fact, conclusions of law, and determinations of EPA and CDH, is intended nor shall be construed as an admission of fact or law by DOE, an estoppel or waiver of defenses by DOE for any purpose, or an acknowledgement by DOE of any liability whatsoever, except as specifically provided for in this Agreement.
- (4) Except as provided for in this Agreement, the parties hereto will not be deemed to have waived or altered any of their

respective existing or future legal rights, duties, obligations, or remedies by entering into this Agreement, including such rights, duties, obligations, or remedies as may exist under CERCLA, RCRA, CHWA, or the AEA.

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- (5) ~~Nothing in this Agreement shall prevent EPA, CDH, or DOE~~  
from exercising their duty to protect public health, welfare, and the environment to the extent permitted by law.
- (6) Notwithstanding anything else in this Agreement, EPA expressly reserves any rights it may have to bring an action under section 7003 of RCRA and section 106 of CERCLA and CDH expressly reserves any right it may have to bring an action under section 7002(a)(1)(B) of RCRA or under section 25-15-301(4), C.R.S. DOE expressly reserves the right to assert any defenses it may have in connection with any such actions.
- (7) With the exception of paragraph 1(2), nothing in this Agreement shall preclude EPA or CDH from taking any enforcement action under any statutes administered by EPA or CDH, nor constitute or be construed as a release from any claim, cause of action, or demand, in law or equity, against Rockwell International Corporation, or any other person, firm, partnership, or corporation not a signatory to the Agreement for any liability it may have arising out of or relating in any way to the generation, storage, transportation, release, or disposal of any hazardous substances, hazardous wastes, radioactive mixed wastes, pollutants, or contaminants located at, taken to, or taken from the Rocky Flats facility.

Notwithstanding the preceding paragraph, EPA and CDH agree during the term of this Agreement not to initiate proceedings against Rockwell International Corporation under RCRA, CERCLA, the CHWA or their implementing regulations

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before any administrative or judicial forum, for injunctive relief regarding activities specified in the schedules herein, if DOE is in compliance with the activities in the Schedules, except in response to an emergency or circumstance which may present an immediate and substantial threat, or an imminent and substantial endangerment, to the public health, welfare, safety, or the environment. Nothing in this paragraph shall be construed to release Rockwell from any liability it may have under any other statutes or regulations administered by EPA or CDH.

- (8) Except as provided in paragraph 12.1.(2), nothing in this Agreement shall be construed to release DOE and Rockwell for violations of RCRA or CERCLA related to off-site transportation, storage, or disposal of hazardous materials, or to natural resource damages.
- (9) Nothing in this Agreement shall be construed to be a general interpretation by EPA, CDH or DOE about the current or potential applicability of RCRA or the CHWA to any waste addressed in this Agreement, or of the general authority or responsibility of EPA to implement RCRA in authorized states.
- (10) Nothing in this Agreement shall be construed to resolve whether DOE is an operator of the facility.

- n. Other Applicable Laws. All actions required to be taken pursuant to this Agreement shall be undertaken in accordance with the requirements of all applicable local, State, and Federal laws and regulations, including the NCP.
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- o. Modifications of Agreement. In the event there is an amendment or change to the statutes or regulations upon which this Agreement is based, such amendment or change shall govern and this Agreement shall be modified to reflect the amendment or change. During the pendency of negotiation of any such modification, the time schedules and obligations herein shall remain in effect to the extent that they do not conflict with the amendment or change. Otherwise, any Party may request a written modification of this Agreement, and if approved by the other Parties, such written modification shall be incorporated herein.
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- p. Duration of Agreement. The parties agree to adhere to the terms of this Agreement so long as it remains in effect. The Agreement will be terminated when the following requirements are completed:
- (1) the requirements of paragraph 6 will be completed upon DOE's receipt of written notice from CDH and EPA that such requirements have been satisfactorily accomplished and upon a determination on the issuance of a Part B permit being made, which notice and permit shall not unreasonably be withheld;
  - (2) the requirements of paragraph 8 will be completed upon DOE's receipt of written notice from CDH and EPA that such requirements have been satisfactorily accomplished and upon

a determination on the issuance of a Part B permit being made, which notice and permit shall not unreasonably be withheld; and

- (3) the requirements of paragraph 10 will be completed upon DOE's receipt of written notice from EPA that such paragraph

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10 requirements have been satisfactorily accomplished, which notice shall not unreasonably be withheld.

After completion of this Agreement, DOE will have a continuing obligation to comply with applicable statutes and regulations at the Rocky Flats facility.

- q. Public Review. To provide for public review of this Agreement, the parties agree to the following:

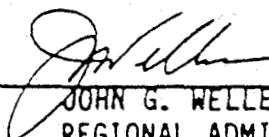
- (1) A joint briefing will be conducted for elected officials on the contents of this Agreement.
- (2) This Agreement shall be available for public information at the next regularly scheduled state exchange meeting between DOE, CDH, and EPA.

r. Effective Date. This Agreement shall become effective upon the date of execution by the Parties.

The undersigned represent that they have the authority to execute this Agreement on behalf of their respective agencies.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE 7/30/86

BY:   
JOHN G. WELLES  
REGIONAL ADMINISTRATOR  
EPA REGION VIII

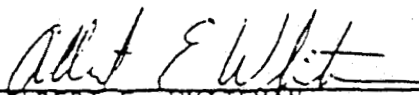
STATE OF COLORADO  
BY COLORADO DEPARTMENT OF HEALTH

DATE 7/30/86

BY:   
THOMAS M. VERNON, M.D.  
EXECUTIVE DIRECTOR

UNITED STATES DEPARTMENT OF ENERGY

DATE 7/31/86

BY:   
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AREA MANAGER  
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## SCHEDULE 1

### COMPLIANCE AND PART B PERMIT APPLICATION

#### Task 1.1 Compliance with Interim Status Requirements

Task 1.1 consists of a phased approach for DOE demonstration of compliance with CHWA generator and interim status requirements for hazardous waste operations and RCRA interim status requirements for radioactive mixed waste operations.

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To complete Task 1.1, DOE shall demonstrate compliance with the applicable CHWA and RCRA notification, generator, interim status, and permit submittal requirements. Complete compliance with 6 CCR 1007-3 Parts 99, 100, 262, and 265 for hazardous waste and 40 CFR Parts 262, 265 and 270 for radioactive mixed waste shall be demonstrated by November 28, 1986 or a plan for achieving compliance for those items which are impossible to complete by November 28, 1986 shall be provided at least sixty (60) days prior thereto. Such plans shall be subject to review and approval by CDH or EPA, as appropriate.

#### Task 1.2 Complete Part B Permit Application

Task 1.2 consists of the submittal of a revised and complete Part B permit application for all hazardous waste and radioactive mixed waste management units and all identified releases at the Rocky Flats Plant.

To complete Task 1.2, DOE and Rockwell shall deliver a combined hazardous and radioactive mixed waste Part B permit application on or before November 28, 1986. The submittal shall be in accordance with requirements of 6 CCR 1007-3 Parts 100 and 264 for hazardous waste, 40 CFR Parts 264 and 270 for radioactive mixed waste, and HSWA. Completion of this task will be measured by delivery of the combined Part B permit application.

## SCHEDULE 2

### ACTIVE WASTE STREAM AND UNIT IDENTIFICATION AND ANALYSES

#### Task 2.1 Active Waste Stream and Unit Identification for Area 1.

Task 2.1 consists of the submittal of active waste stream and unit identification information, for review and approval, for Area 1 (shown on Figure 1 attached hereto and incorporated herein by reference).

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To complete Task 2.1, DOE shall deliver to EPA and CDH, for review and approval, on or before May 30, 1986, active waste streams and unit identifications for Area 1. The submittal shall include the identification of all waste streams generated or transferred into the area and a flow diagram tracing the path of waste movement(s). The waste stream identifications shall, at a minimum, include the following:

- a. Waste source(s), stream(s), unit identification number(s), and name(s);
- b. Description of quantities of waste(s) generated or managed;
- c. Description of generation process and general chemical content of the waste(s); for unit(s), a brief description of the unit(s);
- d. Next destination for the waste stream(s);
- e. Types of transport unit(s), methods of transport, and route; and,
- f. The source(s), stream(s), and unit(s) shall be shown on one or more diagrams to illustrate their locations and to show how the wastes are moved around the plant and their final destinations.

The listed items a. through f. shall be completed in accordance with the standards of 6 CCR 1007-3 and 40 CFR, as applicable. Completion of Task 2.1 will be measured by delivering the required information to CDH and EPA.

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Task 2.2 Waste Analyses Procedures for Area 1

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Task 2.2 consists of the development and submittal, for review and approval, of waste analyses procedures for Area 1 of Figure 1.

To complete Task 2.2, DOE shall deliver waste stream analysis procedures, for review and approval, for Area 1 on or before June 13, 1986. The submittal shall, at a minimum, include the following:

- a. Sampling plans specifying sampling methods, number and locations of the samples, and sampling protocols;
- b. List of waste streams to be sampled;
- c. Parameters to be analyzed and rationale for selection;
- d. Laboratory which will conduct analyses; and
- e. Quality Assurance and Quality Control methods.

The listed items a. through e. shall be completed in accordance with the standards of 6 CCR 1007-3 and 40 CFR, as applicable. Completion of these tasks will be measured by delivery of the required information to CDH and EPA for review and approval.

Task 2.3 Active Waste Stream and Unit Identification for All Areas

Task 2.3 consists of the complete and adequate submittal of all active waste stream and unit identifications located at the Rocky Flats Plant.

To complete Task 2.3, DOE shall deliver to CDH and EPA active waste stream identifications for all such active waste sources, streams and units on or before August 29, 1986. The identifications shall be complete and submitted documents shall meet the criteria as described in Task 2.1 for all such active waste streams and units at the Rocky Flats Plant.

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Task 2.4 Waste Management Units List

Task 2.4 consists of a complete list of all hazardous and radioactive mixed waste units, and all identified SWMU and CERCLA areas.

To complete Task 2.4, DOE shall deliver a complete list of hazardous and radioactive mixed waste units, SWMU, and CERCLA areas to CDH and EPA on or before September 12, 1986. This submittal shall include all supporting data and justifications for such units.

Task 2.5 Waste Analyses Results from All Active Waste Sources and Streams

Task 2.5 consists of the submittal of a complete data package with waste analyses results of all active waste sources and streams at the Rocky Flats Plant. To complete Task 2.5, DOE shall deliver complete waste analysis results for all active waste sources and streams at the Rocky Flats Plant to CDH and EPA on or before October 17, 1986. The submittal shall include complete chemical and physical analysis of all hazardous and radioactive mixed waste sources and streams to the extent necessary to treat, store, or dispose of each waste stream in accordance with 6 CCR 1007-3 or 40 CFR, as applicable. Waste streams identified as transuranic material need not include a complete chemical and physical analysis. Waste streams shall be identified to the extent necessary to demonstrate that they are or are not hazardous or radioactive mixed wastes including all supporting data and justification for the identification. This task shall be completed in accordance with the applicable standards of 6 CCR 1007-3 or 40 CFR, as applicable.

#### Task 2.6 Revised Waste Analyses Section

Task 2.6 consists of a submittal, for review and approval, of a revised hazardous and radioactive mixed waste analyses plan for both permitting and regulatory compliance requirements.

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To complete Task 2.6, DOE shall deliver such a revised waste analysis section as part of the combined Part B permit application on or before November 28, 1986. The submittal shall include information completely addressing the 6 CCR 1007-3 Part 100, Part 264, and Part 265 requirements and equivalent RCRA waste analysis requirements for a Part B permit application and interim status compliance. The submittal shall be in accordance with: 6 CCR 1007-3 including but not limited to Sections 100.40, 100.41, 262.11, 264.13, and 265.13; 40 CFR Sections including but not limited to 262.11, 264.13, and 265.13; 40 CFR 270 Subpart B; and HSWA, as applicable.

#### Task 2.7 Changes and/or Amendments Under Interim Status

Task 2.7 consists of the preparation and delivery of requests for revisions of the Rocky Flats Part A permit application for hazardous and radioactive mixed waste activities and for any proposed changes under Interim Status for such activities.

To complete Task 2.7, DOE shall deliver required amendments to the Rocky Flats Part A application, and requests for changes under Interim Status, together with justification for such amendments or changes, to CDH and EPA on or before November 28, 1986 for review and approval. This submittal shall only include those changes which are in accordance with 6 CCR 1007-3 Sections 100.11 and 100.20 and 40 CFR 270.72.

Task 2.8 Revised Unit Specific Part B Permit Application Section

Task 2.8 consists of the submittal of a combined hazardous and radioactive mixed waste Part B permit application describing each treatment, storage and disposal unit to be permitted and its ancillary equipment.

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To complete Task 2.8, DOE shall deliver unit specific information to CDH and EPA on or before November 28, 1986 as part of the revised Part B permit application. This submittal shall include information completely addressing the 6 CCR 1007-3 Part 100, Part 264, and Part 265 unit specific requirements for a Part B permit application and interim status compliance and 40 CFR Parts 264, 265, and 270, as applicable. The submittal shall be in accordance with: 6 CCR 1007-3 Part 264 Subparts I through O, Part 265 Subparts I through R, and section 100.41 (b); 40 CFR Part 264, Subpart I through O, Part 265, Subparts I through R, and Part 270, Subpart B; and HSWA, as applicable.

### SCHEDULE 3

#### SITE CHARACTERIZATIONS AND CORRECTIVE ACTION

##### Task 3.1 Plans for Geological and Hydrological Site Characterization

Task 3.1 consists of a comprehensive geological and hydrological draft work plan, for review and approval, which will meet requirements of the CHWA, RCRA, and CERCLA.

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To complete Task 3.1, DOE shall compile all existing geological and hydrological data and deliver a work plan for detailed geological and hydrological site characterization to CDH and EPA on or before July 21, 1986. The existing data submittal shall compile the results of the DOE CEARP Phase 1 study, geophysical studies, soil gas survey, and any other pertinent required information. The submittal shall propose a work plan for obtaining a detailed geological and hydrological characterization of the site emphasizing the areas of contamination. The plan shall address, but not be limited to:

- a. Surface geological mapping of surficial deposits, outcrops, seeps and springs, and structures;
- b. Subsurface hydrogeologic and geologic characterization;
- c. Hydrological testing;
- d. Well and boring locations and descriptions;
- e. Surface water hydrology;
- f. Implementation schedules.

Completion of this Task will be measured by the compiled data being available for CDH and EPA review at the Plant and by delivery of a letter from DOE to CDH and EPA forwarding the work plan and an inventory of available data for review and approval. (Task 3.5 covers submittal of the results of this task.)

### Task 3.2 SWMU and CERCLA Areas Identification and Draft Remedial Investigation Work Plan

Task 3.2 consists of a general description of all identified SWMU and CERCLA areas as well as a draft remedial investigation work plan for review and approval by EPA and CDH.

To complete Task 3.2 DOE shall deliver a draft work plan to CDH and EPA on or before July 31, 1986. The work plan shall identify all identified actual or potential SWMU and CERCLA areas and shall consist of methodologies for sampling plan development, data management procedures, health and safety planning, site characterization, and quality assurance/quality control. The work plan shall provide a preliminary priority order for conducting remedial investigations and shall integrate all identified SWMU and CERCLA areas into one list. Schedules for implementation of the remedial investigations for all identified SWMU and CERCLA areas will be submitted per Task 3.4. Specific remedial investigation plans will be developed and submitted under Task 3.8 for high-priority SWMU and CERCLA areas.

### Task 3.3 Draft Feasibility Study Work Plan

Task 3.3 consists of the submittal of a draft work plan for performance of feasibility studies to EPA and CDH for review and approval.

To complete Task 3.3, DOE shall deliver a draft work plan to EPA and CDH on or before September 1, 1986. The work plan shall describe the methods and approach which DOE will use to conduct feasibility studies on SWMU and CERCLA areas. Schedules for the performance of a feasibility study for all SWMU and CERCLA areas will be submitted per Task 3.4. Specific feasibility study plans will be developed and submitted under Task 3.8 for high-priority SWMU and CERCLA areas.



#### Task 3.4 Comprehensive Remedial Investigation and Feasibility Study Schedules

Task 3.4 consists of the submittal, for review and approval, of a comprehensive schedule for remedial investigations and feasibility studies of all identified potential SWMU and CERCLA areas.

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To complete Task 3.4 DOE shall deliver a comprehensive schedule to CDH and EPA on or before October 31, 1986 as part of the draft Part B permit application. The schedule shall meet the remedial investigation and feasibility study requirements of CERCLA, RCRA, the NCP, RCRA, and relevant guidance for all identified SWMU and CERCLA areas. The schedule shall consist of and be based on data obtained through DOE's CEARP program and any other pertinent studies including data gathered from the programs defined herein.

#### Task 3.5 Comprehensive Site Characterization Results

Task 3.5 consists of a comprehensive site characterization based on available data and work performed and approved under Task 3.1.

To complete Task 3.5, DOE shall deliver the results of available site characterizations to CDH and EPA on or before November 28, 1986. The submittal shall include the results of the approved geological and hydrological work plan defined in Task 3.1. The submittal shall also include chemical and physical characterization of SWMU and CERCLA areas based upon available data. Revised comprehensive schedules for performing remedial investigation and feasibility studies and remedial action at SWMU and CERCLA areas will be presented. The submittal shall be in accordance with: 6 CCR 1007-3 Sections 100.41(c), 265.90, and 265.91; 40 CFR 270 Subpart B, 265.90 and 265.91; and RCRA and CERCLA remedial investigation and feasibility study requirements; the NCP; and relevant

guidance. Completion of this task will be measured by submission of the results as part of the revised Part B permit application.

**Task 3.6 Revised Ground Water Monitoring and Protection Submittal**

Task 3.6 consists of the revised submittal of a comprehensive ~~Ground Water Monitoring and Protection Program at the Rocky Flats~~ Plant to address the requirements of the CHWA and RCRA.

To complete Task 3.6, DOE shall deliver a revised ground water monitoring and protection section to the Part B permit application to CDH and EPA on or before November 28, 1986. The submittal shall include information completely addressing ground water requirements for a Part B permit application, interim status compliance, and SWMU and CERCLA areas in accordance with the following regulations: 6 CCR 1007-3 Part 100, Part 264, and Part 265; 40 CFR Part 264, Part 265 and Part 270. The submittal shall be in accordance with: 6 CCR 1007-3 Part 264 Subpart F, Part 265 Subpart F, and section 100.41(c); and 40 CFR Part 264, Subpart F, Part 265, Subpart F, and Part 270, Subpart B. Completion of this task will be measured by submission of the required section as part of the revised Part B permit application.

**Task 3.7 Radioecology and Airborne Pathway Data**

Task 3.7 consists of the submittal for review and approval of radioecology and airborne pathway data for Rocky Flats.

To complete Task 3.7, DOE shall deliver to CDH and EPA a compilation of the radioecology and airborne pathway data on or before December 19, 1986.

Task 3.8 Plume and Source Characterizations and Proposed High Priority SWMU and CERCLA Areas for Corrective/Remedial Actions

Task 3.8 consists of the submittal by DOE of an integrated, comprehensive plan to EPA and CDH to delineate all sources and plumes at the Rocky Flats facility and propose high priority SWMU and CERCLA areas for corrective and/or remedial action under RCRA, CERCLA, or CHWA.

To complete Task 3.8, DOE shall: 1) deliver a list of high priority SWMU and CERCLA areas for corrective and/or remedial action on or before February 16, 1987, to EPA and CDH for review and approval; 2) deliver a complete plume and source characterization plan on or before February 16, 1987, to EPA and CDH for review and approval (The source characterization plan shall include, but not be limited to, a plan for complete physical and chemical characterization of all ground water contamination plumes and their sources and shall address the requirements of: 6 CCR 1007-3 100.41(c) and 265.93; 40 CFR 270 Subpart B, and 40 CFR 265.93); and 3) deliver a work plan and schedules for performance of remedial investigations and feasibility studies for all high priority SWMU and CERCLA areas on or before February 16, 1987, to EPA and CDH for review and approval. The work plan and schedules for performance of the remedial investigations and feasibility studies shall be consistent with the requirements of CERCLA, the NCP and relevant guidance, and with RCRA. The work plan shall also include tentative schedules for submittal of comprehensive remedial action and/or corrective action plans for implementation of response actions for all high priority SWMUs and CERCLA areas, and implementation schedules for such remedial and/or corrective action plans.

The submittal under this Task shall also include, but not be limited to, information which will address:

- a. The rate and extent of migration of hazardous waste and radioactive mixed waste and/or constituents, and hazardous substances in all potential migration paths (air, soils, biota, surface and ground waters, etc.);
- b. ~~The concentrations of hazardous waste and radioactive mixed waste and/or constituents and hazardous substances in surface and ground waters;~~
- c. Environmental pathways evaluation and endangerment/(risk) assessment plans; and
- d. Proposal of high-priority plumes and sources to be subject to corrective/remedial action.

DOE shall implement the plans approved under this Task in accordance with the schedules contained therein.

#### Task 3.9 Results of Source Characterizations and Remedial Investigations

Task 3.9 consists of the submittal of a remedial investigation report(s) summarizing the results of the plumes and source characterization plan performed under Task 3.8 for all high priority plumes and SWMU and CERCLA areas identified in Task 3.8.

To complete Task 3.9, DOE shall deliver such a remedial investigation report(s) to EPA and CDH on or before July 1, 1987. Such report(s) shall be subject to EPA and CDH review and approval with respect to all high priority SWMU and CERCLA areas. The remedial investigation report shall include all the information, data, and analyses generated from Task 3.8, and shall be consistent with the requirements of CERCLA, the NCP and relevant guidance, and RCRA.

Task 3.10 Integrated RCRA/CERCLA Corrective/Remedial Action Program for High Priority Areas

Task 3.10 consists of:

1) the submittal by DOE on or before March 1, 1988, of feasibility study reports scheduled under Task 3.8 for high priority SWMU and CERCLA areas to EPA and CDH for review and approval. Such feasibility reports shall contain comprehensive endangerment (risk) assessments. DOE shall also submit on or before March 1, 1988, preliminary schedules for implementation of the recommended remedial/corrective action.

2) Selection by EPA and CDH of remedial/corrective action response measures for high priority SWMU and CERCLA areas. EPA and CDH shall select such response measures as expeditiously as possible.

3) Within 30 days of the selection of remedial and/or corrective action response measures pursuant to subparagraph 2) above, DOE shall deliver to EPA and CDH for review and approval, a plan for implementation of remedial and/or corrective response measures. Such plan shall address releases from all high priority SWMU and CERCLA areas identified in Task 3.8, and shall contain schedules for implementation of the proposed response measures which shall be subject to EPA and CDH review and approval.

4) Upon EPA and CDH approval of the corrective/remedial action plan, DOE implementation of such plan shall be in accordance with the schedules contained therein.

All feasibility study reports, endangerment (risk) assessment, plans, and response measures submitted by DOE pursuant to this task shall be consistent with the requirements of RCRA, CERCLA,

the NCP and relevant guidance. For all remedial action under CERCLA, the requirements of CERCLA, the NCP and relevant guidance shall be met. For all corrective action, the requirements of RCRA, CHWA and relevant regulations and guidance, including but not limited to 40 CFR Part 264 and 6 CCR 1007-3 Part 264, shall be met. As applicable, the submittals shall include but not be limited to:

- a. A corrective action program including a schedule therefor for ground water high-priority areas that prevents hazardous substances and constituents from exceeding their respective concentration limits at the compliance points;
- b. a ground water monitoring program including a schedule therefor that meets the ground water protection standards under 6 CCR 1007-3 Section 264.92; 40 CFR Section 264.92; CERCLA, the NCP and relevant guidance, and that demonstrates the effectiveness of the corrective action program;
- c. a monitoring program for surface waters and other identified contaminant pathways and a schedule for implementation of the monitoring program.

#### Task 3.11 Comprehensive Remedial Investigation and Feasibility Study Update

Task 3.11 consists of the submittal of work plans and schedules for the performance of remedial investigation and feasibility studies for all remaining SWMU and CERCLA areas at the Rocky Flats facility which were not addressed in Tasks 3.8-3.10, including, but not limited to, any areas where contamination may have migrated off site.

To complete Task 3.11, DOE shall: 1) deliver, on or before June 1, 1988, a list of all such remaining SWMU and CERCLA areas to EPA

and CDH for review and approval; and 2) deliver, on or before June 1, 1988, a work plan and schedules for performance of remedial investigations and feasibility studies for all remaining SWMU and CERCLA areas to EPA and CDH for review and approval. The work plan and schedules for performance of the RI/FS shall be consistent with the requirements of CERCLA, the NCP and relevant guidance, and with RCRA. The work plan shall also include tentative schedules for submittal of comprehensive remedial and/or corrective action plans for implementation of response measures for all remaining SWMU and CERCLA areas, and tentative implementation schedules for such remedial and/or corrective action plans.

The submittal under this Task shall also include information which will address for all remaining SWMU and CERCLA areas:

- a. The rate and extent of migration of hazardous waste and radioactive mixed waste and/or constituents and hazardous substances in all potential migration paths (air, soils, biota, surface and ground waters, etc.);
- b. The concentrations of hazardous waste and radioactive mixed waste and/or constituents and hazardous substances in surface and ground waters;
- c. Environmental pathways evaluation and endangerment(risk) assessment plans, and;
- d. Proposal of remaining plumes and sources to be subject to corrective/remedial action.

DOE shall implement the work plans approved under this Task in accordance with the schedules therein.

### Task 3.12 Results of Remedial Investigations for Remaining CERCLA Areas and SWMUs

Task 3.12 consists of the submittal of a remedial investigation report(s) for all remaining SWMU and CERCLA areas identified in task 3.11.

To complete Task 3.12, DOE shall deliver, in accordance with the schedules approved in Task 3.11, a remedial investigation report(s) for all remaining SWMU and CERCLA areas, to EPA and CDH for review and approval. The remedial investigation report shall include all the data, information and analyses generated from Task 3.11 and shall be consistent with the requirements of CERCLA, the NCP and relevant guidance, and RCRA.

Task 3.13 Integrated RCRA/CERCLA Corrective/Remedial Action Program for Remaining Areas

Task 3.13 consists of:

- 1) submittal by DOE of feasibility study reports as scheduled under Task 3.11 for remaining SWMU and CERCLA areas to EPA and CDH for review and approval. Such feasibility reports shall contain comprehensive endangerment (risk) assessments. DOE shall also submit preliminary schedules for implementation of the recommended remedial/corrective actions.
- 2) Selection by EPA and CDH of remedial/corrective action response measures for remaining SWMU and CERCLA areas. EPA and CDH shall select such response measures as expeditiously as possible.
- 3) Within 30 days of selection of remedial and/or corrective action response measures pursuant to subparagraph 2) above, DOE shall deliver to EPA and CDH for review and approval, a plan for implementation of remedial and or corrective response measures. Such plan shall address releases from all remaining SWMU and



CERCLA areas identified in Task 3.4, and shall contain schedules for implementation of the proposed response measures which shall be subject to EPA and CDH review and approval.

4) Upon approval of the corrective/remedial action plan, DOE shall implement such plan in accordance with the schedules contained therein.

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All feasibility study reports, endangerment (risk) assessment, plans, and response measures submitted by DOE pursuant to this task shall be consistent with the requirements of RCRA, CERCLA, the NCP and relevant guidance. For all remedial action under CERCLA, the requirements of CERCLA, the NCP and relevant guidance shall be met. For all corrective action, the requirements of RCRA, CHWA and relevant regulations and guidance, including but not limited to 40 CFR Part 264 and 6 CCR 1007-3 Part 264, shall be met. As applicable, the submittals shall include but not be limited to:

- a. A corrective action program including a schedule therefor for remaining ground water areas that prevents hazardous substances and constituents from exceeding their respective concentration limits at the compliance points;
- b. a ground water monitoring program including a schedule therefor that meets the ground water protection standards under 6 CCR 1007-3 Section 264.92; 40 CFR Section 264.92; CERCLA, the NCP and relevant guidance, and that demonstrates the effectiveness of the corrective action program;
- c. a monitoring program for surface waters and other identified contaminant pathways and a schedule for implementation of the monitoring program.

#### SCHEDULE 4

##### CLOSURE AND POST-CLOSURE CARE PLANS

##### Task 4.1 Facility Wide Closure and Post-Closure Care Plans

Task 4.1 consists of Closure and Post-Closure Care Plans (where applicable) for all units to be closed at the Rocky Flats Plant.

To complete Task 4.1, DOE shall deliver Closure and Post-Closure Care Plans for all units to be closed to CDH and EPA on or before November 28, 1986. The submittal shall include Closure, and where applicable Post-Closure Care Plans, for all hazardous and radioactive mixed waste units for which Closure and Post-Closure Care Plans have not been submitted and which are to be closed. The submittal shall be in accordance with 6 CCR Parts 100, 264, and 265 and 40 CFR Parts 264, 265 and 270, as applicable. If appropriate, an application by DOE for a post-closure permit may be required by CDH or EPA.

## SCHEDULE 5

### CLOSURE AND POST-CLOSURE CARE OF THE SOLAR EVAPORATION SURFACE IMPOUNDMENTS

#### Task 5.1 Closure Plan for Solar Evaporation Surface Impoundments

Task 5.1 consists of the submittal of a Closure Plan for the solar evaporation surface impoundments at the Rocky Flats Plant.

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To complete Task 5.1, DOE shall deliver a closure plan to CDH and EPA for review and approval, for the solar evaporation surface impoundments on or before August 29, 1986. The Closure Plan shall completely address the requirements of 40 CFR Part 265 Subparts G and K for closure.

#### Task 5.2 Ground Water Monitoring System for the Solar Evaporation Surface Impoundments

Task 5.2 consists of the installation of ground water monitoring wells for the Solar Evaporation Surface Impoundments, with location and construction approval by CDH and EPA.

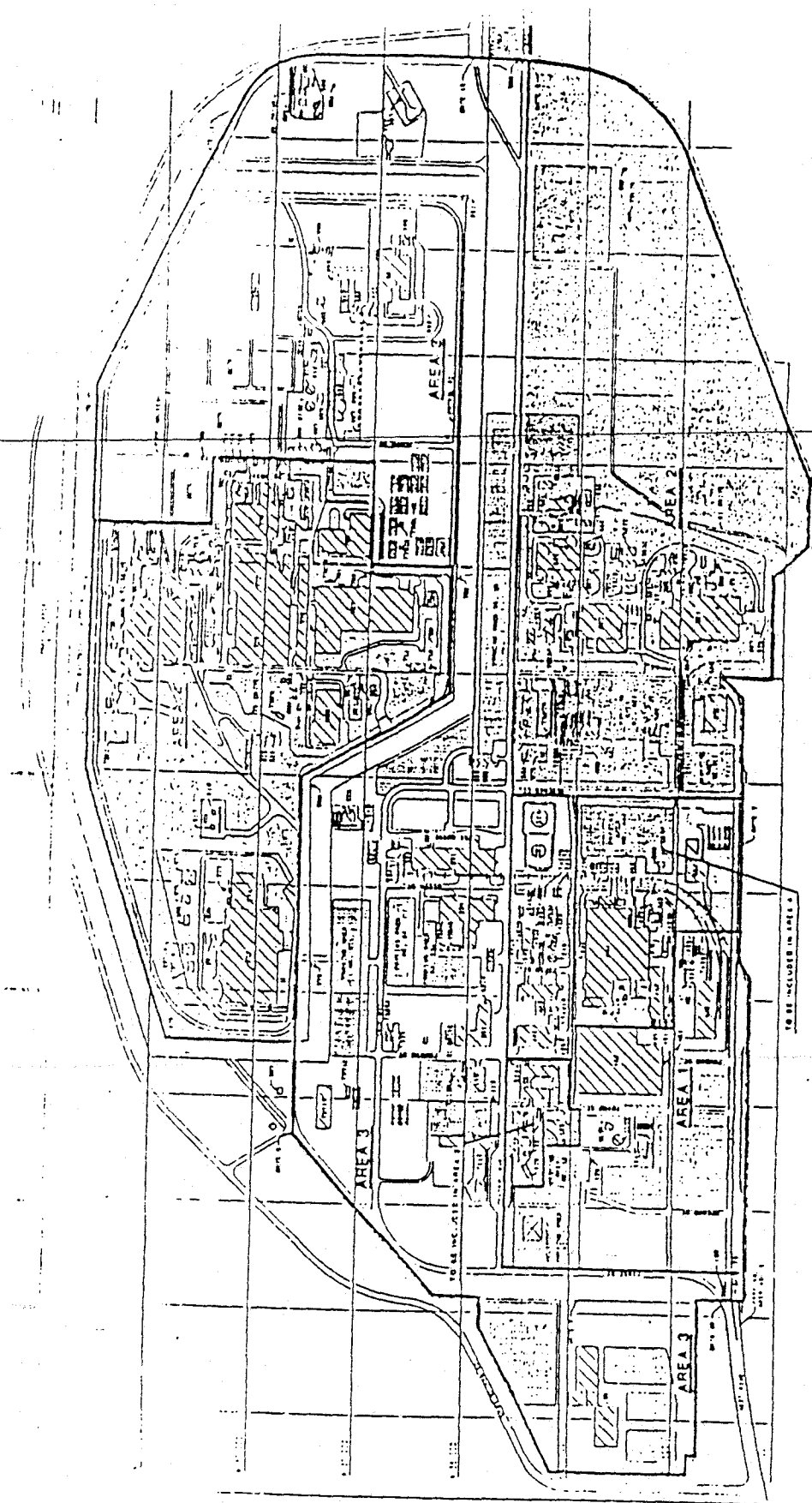
To complete Task 5.2, DOE shall complete installation of a ground water monitoring system for the solar evaporation surface impoundments by September 30, 1986. Completion of this task will include installation of no less than 20 monitoring wells upon approval of CDH and EPA, for assessment and monitoring of releases from the solar evaporation surface impoundments. Wells shall be installed in accordance with 40 CFR Part 264 Subpart F and Part 270. Completion of this task shall be measured by a letter from DOE to CDH and EPA certifying installation of all the approved wells.

#### Task 5.3 Post-Closure Care Plan for Solar Evaporation Surface Impoundments

Task 5.3 consists of a submittal of a Post-Closure Care Plan, based on available data, for the solar evaporation surface impoundments including corrective action, health and exposure

assessment and plume delineation information required under 40 CFR Parts 264 and 270 and HSWA.

To complete Task 5.3, DOE shall deliver a Post-Closure Care Plan for the solar evaporation surface impoundments to CDH and EPA on or before November 28, 1986. The submittal shall include information completely addressing the post-closure requirements of 40 CFR Parts 264 and 270 and shall include a schedule for implementation of 40 CFR Part 264 Subpart F requirements. The submittal shall be in accordance with 40 CFR Part 264 Subpart G and sections 264.228 and 270.14(c) and all requirements under HSWA. The Plan may be modified thereafter to take into account additional ground water monitoring data obtained under Schedule 3.



MAY 27, 1986

WASH

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GRAPHIC SCALE

ROCKY FLATS PLANT  
WASTE STREAM IDENTIFICATION STUDY AREAS

FIGURE 1